

ABSTRACT

To prevent after-corrosion of wiring or electrodes formed by patterning films of aluminum or an alloy thereof by reactive ion etching (RIE) using an etchant containing chlorine gas or its gaseous compounds, residual chlorine on the surface of the wiring or electrodes is removed by exposing it to a plasma generated in an atmosphere containing water vapor or to neutral active species extracted from the plasma. This treatment is performed either at the same time or after an ashing operation, an operation for removing a resist mask used in the aforesaid RIE by adding water vapor to an atmosphere containing oxygen. To perform the latter separate treatment, an automatic processing system is disclosed in which an after-treatment apparatus for removing residual chlorine is connected, via a second load lock chamber, to an ashing apparatus connected to a RIE apparatus by a load lock chamber which is capable of making a vacuum.